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Our reference: 201810/07/27

12 October 2018

Mr Manyapelo Richard Makgotlho
Independent Communications Authority of South Africa
Blocks A
Pinmill Farm
164 Katherine Street
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Via email: RMakgotlho@icasa.org.za

Dear Mr Makgotlho

**RE: NOTICE INVITING COMMENTS REGARDING THE DRAFT RADIO FREQUENCY
MIGRATION PLAN 2018**

Mobile Telephone Networks ("MTN") thanks the Independent Communications Authority of South Africa ("Authority") for the opportunity to make comment on the draft Radio Frequency Migration Plan 2018 as published on 24 August 2018 in Government Gazette No. 41854.

Our submission comprises of three main sections as follows:

- A. Introduction
- B. General comments on the draft radio frequency migration plan 2018
- C. Specific comments on the draft radio frequency migration plan 2018

MTN hereby requests an opportunity to make oral representations should the Authority proceed with the public hearings as planned.

Kind regards,

A handwritten signature in blue ink, appearing to read 'Geoff Blake', is written over a faint, circular blue stamp or watermark.

Geoff Blake
Senior Manager: Technical Regulations & Mandated Provisioning
Mobile Telephone Networks (Pty) Ltd



**MTN'S COMMENTS ON THE DRAFT FREQUENCY
MIGRATION PLAN 2018 AS PUBLISHED IN
GOVERNMENT GAZETTE No 41854 DATED 24
AUGUST 2018**

12 October 2018

A. INTRODUCTION

On 24 August 2018 the Authority published a notice (494 of 2018) inviting comments regarding the draft radio frequency migration plan 2018 in Government Gazette No. 41854, in terms of section 4, read with sections 31(4), 34(7)(c)(iii), 34(8) and 34(16) of the Electronic Communications Act, 2005 (Act no. 36 of 2005) ("the Act").

MTN welcomes the opportunity to make comment on the draft radio frequency migration plan 2018 and hereby indicates the willingness to make oral representations should the Authority proceed with the public hearings as planned.

MTN recognises the importance of the radio frequency migration plan in giving effect to changes in the allocation of radio frequency spectrum in the National Radio Frequency Plan 2018.

MTN's submission is comprised of two main sections: general comments and specific comments regarding the draft radio frequency migration plan 2018.

B. GENERAL COMMENTS ON THE DRAFT RADIO FREQUENCY MIGRATION PLAN 2018

PART 1: Frequency Migration Regulations Overview

In practice an overview of the Frequency Migration Regulations would entail a general review or summary of the regulations. However, the overview in the draft radio frequency migration plan seems to be a republication of the Radio Frequency Migration Regulations 2013, with an inclusion of a few amendments.

The following are the amendments included in the 2013 overview:

- Subregulation 4(b) has been amended by the addition of the clause *"and in turn, the latest ITU Radio-Regulations Edition"*;
- Subregulation 4(f) has been amended by the addition of the clause *"However the Authority should guard against non-standard frequency spectrum usage and application practices"*;

- Subregulation 5(1) has been amended by the addition of the phrase *“in force”*;
- The word *“period”* has been replaced by the phrase *“time scale”* in subsubregulation 5(2)(b); and
- Subsubregulation 5(3)(a) has been amended by the addition of the clause *“by the notice in the Gazette”*

It is not clear why the Authority found the amendments to be necessary as they seem not to be material in nature.

In view of the fact that the Frequency Migration Regulation seem to be introducing non-material amendments, MTN recommends that the Authority changes the short name of the regulations to “Radio Frequency Migration Amendment Regulation 2018” if it is the intention of the Authority to amend the 2013 regulations.

However, if the Authority does not intend to amend the 2013 regulations then MTN recommends that the Authority discards all amendments made to the regulations and make reference to the Radio Frequency Migration Regulations 2013 in the draft Radio Frequency plan and if need be, include the regulations as an Appendix in the draft migration plan.

PART 2: Draft Radio Frequency Migration Plan

MTN notes and welcomes the introduction of the definition of ‘spectrum migration’ in as far as it seeks to provide clarity regarding the concept of spectrum migration. MTN, however, cautions the Authority to ensure that the definition is aligned across all relevant regulations to avoid ambiguity.

MTN notes that the sections relating to frequency migration and spectrum use in the Karoo Central Astronomy Advantage Areas have been omitted without any explanation or making mention of the Regulations for the protection of the Karoo Central Astronomy Advantage Areas that were published on 15 December 2017 in Government Gazette 41321.

MTN is concerned that the Authority speaks of planned feasibility studies in the bands 1710 – 1785 MHz paired with 1805 – 1880 MHz and 1920 – 1980 MHz and 2110 – 2170 MHz without stating the purpose of the studies or naming the source of the proposal for the studies, e.g. SABRE, WRC, SADC FAP or New ICASA proposal.

Furthermore, these bands have been included in the draft radio frequency plan even though no spectrum migration is planned therein.

C. SPECIFIC COMMENTS ON THE DRAFT RADIO FREQUENCY MIGRATION PLAN

2018

1.2.3 Spectrum re-farming

MTN notes the Authority's view in the draft radio frequency migration plan 2018 ("draft migration plan") that there is no universal definition for spectrum re-farming. MTN therefore welcomes the Authority's attempt to provide clarity on the meaning of the term and the concept of spectrum re-farming for the South African context.

MTN observes that the proposed definition describes spectrum re-farming in a different way to how licensees, in particular mobile network operators are accustomed to when describing the process for re-using their assigned spectrum for a different technology within the same allocation. A case in point is when licensees re-use spectrum allocated for International Mobile Telecommunications (IMT) from one type of service to another e.g. from Global System for Mobile communications (GSM) to Long Term Evolution (LTE). It can be seen from this case that the allocation of the spectrum remains the same: IMT.

Considering the above, MTN recommends that the Authority modifies the proposed definition as follows:

"Radio Frequency Spectrum Re-farming" means the process by which the use of a Radio Frequency Spectrum band is changed following a change in allocation in the national radio frequency plan, however, does not include the re-use of an assigned radio frequency spectrum band for a different technology without a change in

allocation, this does not necessarily mean that the licensed user has to vacate the radio frequency spectrum band'.

MTN proposes the removal of the phrase 'may include change in the specified technology' because the Authority issues licences on a technology neutral basis and because a licensee can change the type of technology used but continue to provide services within the same spectrum allocation as per the national frequency plan, as shown in the example above.

MTN is cognisant of the proposal in the Electronic Communications Amendment Bill (B31 – 2018) to introduce regulatory approval for spectrum re-farming and as such the retention of the above-mentioned phrase could result in unintended consequences, for example, the unnecessary imposition of universal access and universal service obligations, and spectrum fees even in cases where there was no change in allocation of that particular radio frequency spectrum band.

The proposal in the Electronic Communications Amendment Bill regarding spectrum re-farming (if passed into law) will have an adverse impact in the rollout of newer technologies due to delays in approval for spectrum re-farming.

1.2.4 Other definitions

The draft migration plan states:

'where the user of a radio frequency has a change of assignment within the same band, usually to allow greater efficiency in the use of the spectrum, this may be termed in-band migration.'

The above-mentioned paragraph does not come across as a definition but as a suggestion. MTN therefore recommends that the Authority clearly defines in-band migration as follows:

"In-band migration" means 'the process whereby a licensee is reassigned radio frequency spectrum within the same band, usually to allow greater efficiency in the use of the spectrum.'

The draft migration plan also states the following:

'In some cases, a radio spectrum user may not only have the assignment changed in the same band, but have a new spectrum allocated in a different band. This has occurred with respect to the balancing of assignments in the GSM 900 MHz and 1800 MHz bands and may well become a feature of mobile broadband assignments in the future.'

The above-mentioned paragraph does not come across as a definition either but sounds like a proposal to introduce a definition of a concept along the lines of 'spectrum assignment balancing'. Based on the Authority's view that such balancing may well become a feature of mobile broadband assignments in the future, MTN therefore suggests that the Authority formulates a clear definition of such balancing.

3.2 Process

MTN notes that the draft migration plan has omitted the provision for the conducting of feasibility studies in the case of complex migrations. MTN therefore requests the Authority to provide clarity on the said omissions given that there is mention of planned feasibility studies elsewhere in the document.

3.3.2 Time Frame to migrate existing end users

According to the draft migration plan, potential areas that may arise in the future include:

- 'Conversion of existing Mobile International Mobile Telecommunication frequency to IMT2020KG.'

'IMT2020KG' in the above sentence appears to be a typographical error and should be rectified accordingly by the deletion of 'KG' at the end.

'Because of the large number of GSM customers with voice / text only phones and the availability of other bands for mobile broadband, it is unlikely that GSM bands will be shut off any time soon.'

MTN agrees that there is still a significant number of active GSM service users at present and that the GSM technology will remain in use for some time in the future. However, MTN seeks clarity from the Authority on what 'shut off' of 'GSM bands' means, taking into consideration that bands are not labelled according to the technology utilised in providing the services but according to their allocation, e.g. IMT900 vs GSM900.

A switch over from 3G / HSPA to LTE – if this ever occurs would involve a time frame of 3-5 years to accommodate the life cycle of the end-terminal equipment.'

MTN would like to understand what informs the above-mentioned sentence and how the time frames were determined.

The discontinuation of the use of a particular technology is based on business decisions on factors such as the ongoing viability of the technology, availability of relevant equipment and suppliers. MTN is therefore of the view that the Authority is not well placed to determine when a technology ceases to provide commercial value.

3.3.5 Conclusions regarding time frame

'It has been established that the forward looking time frame for a process of spectrum migration should be between 3 to 5 years from the moment of announcement, unless otherwise specified.'

Please see the comment above regarding the determination of time frames.

4.3 Approach to development of FMP

MTN proposes that figure 2 'Process for Development of Frequency Migration Plan' be updated with relevant/accurate information. The information regarding WRC's in the third step 'Valid against ITU WRC3/7/10/13/15) proposals for Region 1' is particularly incorrect.

4.10.16 862 -890 MHz

Mobile (880-890 MHz paired with 925-935 MHz) – currently assigned to Liquid Telecom (Neotel).

MTN would like to highlight that the frequency spectrum (880-890 MHz paired with 925-935 MHz) is not assigned to Neotel but rather Cell C.

4.10.17 890-942 MHz

This section needs to be rewritten to provide more clarity.

4.10.18 942-960 MHz

'This band currently is allocated for GSM900 (Vodacom, MTN). There is currently no spare capacity left in this band.'

It is not clear what purpose is served by the inclusion of the two licensees in parenthesis given that the sentence refers to the allocation and not assignment of spectrum. MTN recommends that the sentence be rewritten in a clear manner while replacing 'GSM900' by 'IMT900'.

The Authority notes that there is no spare capacity in this band, as such the Authority has indicated that no migration is planned for the band and the allocation of the band is to remain as-is. In the same breath the Authority, however, states that an RFSAP is to be developed for the band. The latter causes confusion: if the allocation is to be left as-is, then why would the Authority see a need for an RFSAP for the band?

4.10.19 1350-1375 (1492-1517)/ 1375 – 1400 (1427-1452) MHz

The way the bands in the subtitle are written leads to ambiguity. To avoid any confusion that may arise, MTN proposes that the bands be kept as they are in the radio frequency migration plan 2013, i.e.:

1350-1375 MHz paired with 1492 – 1517 MHz and 1375 – 1400 paired with 1427 – 1452 MHz

4.10.23 1668 – 1675/ 2483.5 – 2500 MHz

The band 2483.5 – 2500 MHz is not mentioned anywhere in this subsection although it is included in the heading. MTN submits that the inclusion of the band proves to be misplaced.

4.12.1 Definition of spectrum re-farming

This definition should be aligned to the definition proposed in 1.2.3 above.

4.12.2 Need for Re-farming in GSM / Mobile bands

'Frequency bands in the sub- GHz range are attractive to operators since it offers better propagation characteristics leading to better coverage at lower cost as well as indoor coverage in comparison to higher frequency bands.'

With the exception of the above-mentioned paragraph, this section is mostly outdated and has diminished relevance. The re-farming of the so called 'GSM bands' has already been implemented by operators in South Africa. Furthermore, the IMT900 and IMT1800 are no longer used for voice only but for mobile broadband services. In addition, the device projections would need to be revised given that projected date has lapsed.

MTN is of the view that this section is irrelevant and should be deleted or replaced.

4.12.3 Points to consideration for GSM / Mobile bands

This section states that:

'Until such a stage is reached that the subscriber base using the existing 2G spectrum is reduced in size to a level where the existing 2G bands have spare capacity, the issue of spectrum re-farming should not be allocated high priority. Instead efforts should be focused towards locating additional bands for IMT as per WRC and SADC proposed spectrum allocation/ utilization.'

However, it should be noted that in some cases, such spectrum re-farming may also be in the interest of the current licensee (e.g. the operator) since it allows him to change the allocation/ technical conditions in order to better serve his customer base.'

MTN welcomes the Authority's view that efforts should be focused on locating additional bands for IMT.

MTN is further of the view that the prioritisation of the issue of spectrum re-farming is immaterial given that re-farming has already taken place in these bands due to unavailability of additional spectrum.

The section further states:

'The GSM 900 MHz and 1800 MHz frequencies are currently occupied by the incumbent mobile operators who have nationwide assignments. If there is a case to inject competition in this market, a re-farming exercise would also need to consider ways and means to re-allocate spectrum between the incumbents and new entrant(s) so as to facilitate free and fair competition. Such an exercise could be carried out for both 900 and 1800 bands at the same time in conjunction with assignments in other bands allocated to IMT to allow existing operators to maintain their existing level of service.'

It is not clear what the above paragraph seeks to achieve given that the two bands have been fully assigned.

It is also not clear which 'market' the Authority is referring to. Furthermore, the Authority seems to conflate 'allocation' and 'assignment' despite making an effort in section 1.2.1 to provide clarity regarding the term.

5.2 Frequency Migration resolutions resulting from WRC 15

Table 4 in this section covers resolutions from other WRC's in addition to those of WRC 15. MTN proposes that resolutions relating to the same frequency band be grouped together for ease of reference in the following manner (see Table 1 below).

It is of interest to note that a feasibility study is planned for the band 1710 – 1785 paired with 1805 – 1880 MHz in Column 4 of Table 6 of the draft migration plan (see Table 2 below), however, there are no details regarding the proposed feasibility study for this band.

MTN requests the Authority to provide clarity on the planned feasibility study for this band, for example, what is the purpose and the scope of the feasibility study?

Table 1: Proposal for grouping related resolutions

Frequency Band (MHz)	WRC	Res. / Rec.	Footnote	Resolution/Footnote
790 – 862	12	224		Frequency bands for the terrestrial component of International Mobile Telecommunications below 1 GHz
	15	224, 760 & 749	5.312A, 5.317A	Use of the frequency band 790-862 MHz in countries of Region 1 and the Islamic Republic of Iran by mobile applications and by other services

5.2 Progress Update to Frequency Migration Plan 2013

MTN further requests the Authority to provide clarity on whether frequency migration is under consideration for this band. If there is no migration planned for this band, then the band should be removed from the draft migration plan.

Table 2: Snapshot of Table 6 of the draft migration plan

1710 – 1785 paired with 1805-1880	FIXED MOBILE (GSM1800 band)		Feasibility studies to be performed. Spectrum re-farming when deemed required may be carried out based upon defined process (refer to 4.12)
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The comments above are also applicable to the band 1920 – 1980 MHz paired with 2110 – 2170 MHz.